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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/483,321	01/14/2000	Gary L. Swoboda	TI-28937	8221
23494	7590	12/24/2003	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			DAY, HERNG DER	
			ART UNIT	PAPER NUMBER
			2128	13

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/483,321

Applicant(s)

SWOBODA, GARY L.

Examiner

Herng-der Day

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. This communication is in response to Applicant's Amendment (paper # 12) to Office Actions dated July 30, 2003 (paper # 11), mailed October 30, 2003, and received by PTO November 3, 2003.

1-1. Claims 1, 4-7, and 12 have been amended; claims 1-12 are pending.

1-2. Claims 1-12 have been examined and claims 1-12 have been rejected.

### *Drawings*

2. The drawings are objected to for the following reasons. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2-1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on October 30, 2003, have been disapproved because they introduce new matter into the drawings. 37 CFR 1.121(f) states that no amendment may introduce new matter into the disclosure of an application.

As described in lines 30-32, page 8 of the original specification, "Table 1 lists these signals, states whether the signal is an input, an output or both, and gives the descriptive name of the signal". In other words, there is no evidence in the original disclosure to support the removing of arrows from the lines in Figure 4. However, Figure 4 displays lines with one arrow, two arrows, or no arrow at all and does not appear to be consistent with table 1. For example,

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the type of Pins TDO and TCKO is output as shown in Table 1, it is unclear how to interpret it in Figure 4. Also note, it seems no input signal to MERGE 46.

### *Specification*

3. The amendment filed June 20, 2003, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The amended material, which is not supported by the original disclosure, is as follows:

(1) Added “said start bit generator generating a serial signal having a predetermined number of bits” and “data stored in said alternative data output register”, as described in claim 12, page 7 of paper # 10.

Applicant is required to cancel the new matter in the reply to this Office Action.

Also note, the amended paragraph at page 1, lines 16 to 17, as described at page 2, second paragraph, of paper # 12 introduces inconsistent information.

### *Claim Objections*

4. Claim 6 is objected to because of the following informalities. Appropriate correction is required.

4-1. Regarding claim 6, “a start bit detector having a start bit detector input input”, as described in lines 5-6 of the claim. (Emphasis added.)

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 4 and 6-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6-1. Claim 4 recites the limitation “a predetermined number” in line 8 of the claim. Claim 6 recites the limitation “a first predetermined number” in line 11 of the claim. Claim 12 recites the limitation “a predetermined number” in line 7 of the claim. The above-mentioned limitation “predetermined number” does not appear to be supported by the original specification.

Applicant argues, “This language references the format illustrated in Figure 7 and described in the original application at page 18, lines 17-30, which includes first section 121 “of plural bits of the same digital state.” This is adequate description of the subject matter recited in claim 4” (page 16, second paragraph, paper # 12). A similar argument has been made for claim 12 (page 17, second paragraph, paper # 12). The Examiner respectfully disagrees with the Applicant’s opinion because in the original specification the first section 121 has been described as “of plural bits of the same digital state” which is different from having “a predetermined number of bits”.

6-2. Claim 12 recites the limitation “data stored in said alternative data output register” in lines 10 and 13-14 of the claim. It does not appear to be supported by the original specification.

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As described in lines 25-27, page 19 of the original specification, “output switch 202 then selects data register OUT 212 for serial transmission of the predetermined number of bits”. In other words, only “predetermined number of data bits which has been stored in data register OUT 212” will be transmitted. Without undue experiment, it is unclear for one skilled in the art whether it is the same as “data stored in said alternative data output register”.

**6-3.** Claims not specifically rejected above are rejected as being dependent on a rejected claim.

**7.** Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

**7-1.** For example, as described in lines 19-20, page 18 of the original specification, “This data transfer protocol includes a first section 121 of plural bits of the same digital state”. However, the specification fails to disclose how to determine those plural bits. Accordingly, without undue experiment, it is unclear how one skilled in the art may make and/or use the invention.

Applicant argues, “selecting this predetermined number of bits is no different than selecting the length of the prefix 110 illustrated in Figure 6 and described in the specification at page 17, line 23 to page 18, line 10.” Therefore, “one skilled in the art would realize the predetermined number of bits must be at least as great as the length of the known prefix 110” (pages 17-19, paper # 12).

The Examiner respectfully disagrees with the Applicant’s opinion. First, prefix 110 has been disclosed in prior art. As described in lines 17-21, page 18 of the original specification,

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“This invention proposes employing another data transfer protocol on the serial scan path” and “This data transfer protocol includes a first section 121 of plural bits of the same digital state”. It does not appear that Applicant has disclosed “selecting this predetermined number of bits is no different than selecting the length of the prefix 110 illustrated in Figure 6”. If any essential matter has been disclosed in the co-pending applications or patents, which has been incorporated by reference in this instant application, Applicant should explicitly amend the Specification to include the related information such that one skilled in the art knows how to make and/or use the invention without undue experimentation. Such an amendment should include remarks pointing to the text in the co-pending application or patent containing the support for the amendment.

Next, as described in lines 25-27, page 17 of the original specification, “a prefix section 110 corresponding to registers within the serial scan path before the desired register”. Claim 1 recites the limitation “a serial signal having a number of bits greater in number than a number of bits of the serial connection of the plurality of registers” which is obviously different from “corresponding to registers within the serial scan path before the desired register”. Therefore, without undue experiment, it is unclear for one skilled in the art how to determine a first section 121 of plural bits.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step comprises being a selected module in claim 6 because any nonselected module will be nonresponsive to data on the serial connection.

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10. Claims 4 and 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10-1. Claim 4 recites the limitation “said predetermined number of data bits” in line 12 of the claim. It is vague and indefinite because “a predetermined number of data bits” has been recited both in lines 18-19 of claim 1 and in lines 5-6 of claim 4.

10-2. Claim 6 recites the limitations “said serial data input” and “said serial data output” in, for example, lines 23 and 29 of the claim. There is insufficient antecedent basis for these limitations in the claim.

Also note, claim 6 recites the limitation “said mode input” in lines 31 and 34 of the claim. It is vague and indefinite because “a mode input” recited in lines 21-22 of the claim is associated with input switch.

10-3. Claim 8 recites the limitation “said mode input” in line 10 of the claim. It is vague and indefinite because “a mode input” recited in lines 21-22 of claim 6 is associated with input switch.

10-4. Claims 7 and 9-12 are rejected as being dependent on a rejected claim.

#### ***Allowable Subject Matter***

11. Claims 1-12 are deemed non-obvious over the prior art of record, and would be allowed once the above rejections under 35 U.S.C. 112, first and second paragraphs are overcome.

#### ***Applicant's Arguments***



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12. Applicant argues the following:

(1) "The substitution of "bits" for "cycles" is adequately disclosed" by "teaching that the preferred embodiment employs an known standard (IEEE 1149.1 also known as JTAG)" (pages 15-16, paper # 12).

(2) To recite corresponding mode names in the claims such as the amended terms "serial scan path mode signal" and "alternate data transfer protocol mode signal" as well as the "bypass path mode signal" is permitted (pages 16-17, paper # 12).

(3) "the two limitations noted with regard to claim 4 are not contrary" (page 19, paper # 12).

(4) "This language references the format illustrated in Figure 7 and described in the original application at page 18, lines 17-30, which includes first section 121 "of plural bits of the same digital state." This is adequate description of the subject matter recited in claim 4" (page 16, second paragraph, paper # 12).

(5) "This language references the format illustrated in Figure 7 and described in the original application at page 18, lines 17-30, which includes first section 121 "of plural bits of the same digital state." This is adequate description of the subject matter recited in claim 12" (page 17, second paragraph, paper # 12).

(6) "selecting this predetermined number of bits is no different than selecting the length of the prefix 110 illustrated in Figure 6 and described in the specification at page 17, line 23 to page 18, line 10." and "one skilled in the art would realize the predetermined number of bits must be at least as great as the length of the known prefix 110" (pages 17-19, paper # 12).

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(7) "Claims 1, 4 to 7 and 12 have been amended to change "logic state" to "digital state"" (page 20, first paragraph, paper # 12).

(8) "Claim 6 has been amended" and "these amendments cure any indefiniteness in claim 6 " (page 20, second paragraph, paper # 12).

***Response to Arguments***

**13.** Applicant's arguments have been fully considered.

**13-1.** In view of Applicant's persuasive arguments (1), (2) and (3), the original claim rejections in sections 6-1, 6-3, and 7-2 of paper # 11 under 35 U.S.C. 112, first paragraph, for claims 1-12 have been withdrawn.

**13-2.** In view of Applicant's unpersuasive arguments (4) and (5), claims 4 and 6-12 are rejected under 35 U.S.C. 112, first paragraph, as detailed in section 6-1 above.

**13-3.** In view of Applicant's unpersuasive argument (6), claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as detailed in section 7-1 above.

**13-4.** In view of Applicant's persuasive argument (7), the original claim rejections in section 9-1 of paper # 11 under 35 U.S.C. 112, second paragraph, for claims 1, 4-7, and 12 have been withdrawn.

**13-5.** In view of Applicant's unpersuasive argument (8), claims 6-12 are rejected under 35 U.S.C. 112, second paragraph, as detailed in sections 10-2 to 10-4 above.

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*Conclusion*

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Herng-der Day whose telephone number is (703) 305-5269. The examiner can normally be reached on 9:00 - 17:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin J Teska can be reached on (703) 305-9704. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Herng-der Day  
December 22, 2003

  
**HUGH JONES Ph.D.**  
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